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Report of an Amphipod Species New to Ohio 'Gammarus minus' Say (Amphipoda: Gammaridae)

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16. ABSTRACT

Gammarus minus Say is reported from two locations in Southern Ohio. This is the first record of the species from Ohio, although it is very common from other limestone areas of the midwest.

17. KEY WORDS AND DOCUMENT ANALYSIS

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BRIEF NOTE

REPORT OF AN AMPHIPOD SPECIES NEW TO OHIO: *GAMMARUS MINUS* SAY (AMPHIPODA: GAMMARIDAE)[1]

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Gammarus minus Say is a common amphipod in cave streams, springs, and spring-runs of limestone areas in the eastern and middle-western United States. The range of this crustacean extends from the Piedmont in the east to the western border of the Ozark Plateau in the middle-west, and is bordered on the north by the southern boundary of Wisconsin glaciation and on the south by the Mississippian Embayment (Cole 1970; Holsinger 1972). Although southern Ohio lies within this area, *G. minus* has not previously been reported from Ohio.

G. minus is now reported from 2 Ohio locations: a spring at the entrance to Cedar Fork Cave in Adams County (population discovered by J. R. Holsinger on 16 July 1966) and a spring-run in French Park (Hamilton County), a city park in Amberley Village near Cincinnati (population discovered by D. C. Beckett on 23 Feb. 1976). These 2 populations of *G. minus* are separated by approximately 60 miles.

G. minus is a morphologically variable species occupying a range of habitats from cave streams to spring-runs. Three ecophenotypes of this species are recognized: a brownish-colored spring form with well-developed eyes (Form III); a bluish-colored intermediate cave form with slightly reduced eyes (Form II); and a bluish cave form with greatly reduced eyes (Form I) (Hubricht 1943; Holsinger and Culver 1970). Both Ohio populations are of the Form III variety.

G. minus is extremely abundant in the French Park (Cincinnati) spring-run, often numbering in the thousands per square meter of stream bottom. Similar abundances of *G. minus* have been reported for Doe Run and its tributaries, a spring-fed stream system in northern Kentucky (Minckley and Cole 1963).

The fauna of lotic habitats in southern Ohio remain relatively uninvestigated. For example, the investigation of the Cedar Fork cave stream resulted not only in the first record of *G. minus* in Ohio,

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but also in the first Ohio record of the subterranean isopod *Asellus* (s. lat.) *stygius* Packard (Fleming 1972). Further examination of streams in southern Ohio will undoubtely disclose additional populations of *G. minus* and may well provide new records for other species of crustacea.

LITERATURE CITED

Cole, G. A. 1970 *Gammarus minus:* geographic variation and description of new subspecies *G. m. pinicollis* (Crustacea, Amphipoda). Trans. Amer. Micros. Soc. 89: 514–523.

Fleming, L. E. 1972 The evolution of eastern North American isopods of the genus *Asellus* (Crustacea: Asellidae), Part I. Internat. J. Speleol. 4: 221–256.

Holsinger, J. R. 1972 The freshwater amphipod crustaceans (Gammaridae) of North America. Biota of Freshwater Ecosystems Identification Manual No. 5, U.S. EPA. 89 p.

——— and D. C. Culver 1970 Morphological variation in *Gammarus minus* Say (Amphipoda, Gammaridae), with emphasis on subterranean forms. Postilla 146: 1–24.

Hubricht, L. 1943 Studies on the Nearctic freshwater Amphipoda, III. Notes on the freshwater Amphipoda of eastern United States, with descriptions of ten new species. Amer. Midl. Natur. 29: 683–712.

Minckley, W. L. and G. A. Cole 1963 Ecological and morphological studies on gammarid amphipods (*Gammarus* spp.) in spring-fed streams of northern Kentucky. Occasional Papers of the C. C. Adams for Ecol. Stud. 10: 1–35.